

ETHICAL HACKING

Ethical Hacking Workshop is 2-day workshop (max. 8 hours/day) by Sangeet Chopra. This workshop will be divided into 4 sessions participants are introduced to various concepts of ethical hacking. The Participants will get introduced and informed about various case studies in the subject.

COURSE CURRICULUM :

1. Ethical Hacking: Legal or illegal?

- Concepts of Hacking
 1. Ethical Hacking and Information Security : Definition
 2. Who is hacker (Security Expert)?
 3. How to become a Hacker?
 4. Why do we need hackers?
 5. Case Studies: Hackers Methodology and Innovation
 6. Difference between hacker and cracker?
- Types of Hackers (As per Knowledge)
 1. Coders
 2. Admins
 3. Script Kiddies
- Types of Hackers(As per Working)
 1. White hat hackers
 2. Black hat hackers
 3. Grey hat hackers
 4. Hacktivists (Cyber Terrorists)

How to secure yourself from Attackers

How to Stop Attackers

Indian Cyber Law

1. Real Scenario
2. Types of Cyber Crime
3. Indian IT Act 2000

2. E-Mails: exploitation and Security

What is an E-mail

Working of E-mail

Traveling of an E-Mail

Email Servers

1. Definition
 2. Usage
- E-mail Forgery
 1. Anonymous Mailing techniques
 - Using Websites
 - Using Self Developed PHP Script
 2. E-Mail Bombers
 - Security to Anonymous Mailing
 1. Can User stop Receiving Fake Mails?
 2. Tracing an Attacker
 3. Proving a Fake Mail
 - Attacks on E-Mail Password
 1. Attackers Anatomy and Psychology while hacking the passwords
 2. Technical Attacks

Using Fake Websites: Phishing

Keyloggers

Non-Technical Attacks

1. Dumpster Diving
 2. Shoulder surfing
 3. Social Engineering
- Securing the E-Mail Passwords
 1. Password Policies
 2. Benefits of SSL Certificate for a User.
 3. Anti – Trust Policies
 - Email Forensics
 1. E-Mail Header Analysis
 2. Who is Look Up Query
 3. Tracing a Sender of an E-Mail

3. Inside Threats: Operating System Hacking and Security

- Introduction to System Software
 1. Windows o Ubuntu(Linux)
 2. Back Track(Live OS)
- Windows Security Components and Working
 1. Windows Security Components
 2. User Account Login Process
- Implementation of Virtualization

1. VM Ware Workstation
2. Installation and Usage

Windows

Linux

1. Oracle Virtual Box
2. MS Virtual PC
3. Tracing Sender's IP Address
4. Tracing Sender's Location

Attacks on Windows Login Password

1. Resetting Windows login password without the old password
 2. Removing Windows login password without the old password
- Other Security Measure
 1. BIOS User and Supervisory password
 2. Biometric
 3. Implementing Syskey File Encryption
 - Windows Inbuilt Flaws and Security Loopholes
 1. Hidden Accounts o Backdoor Via Sticky Keys
 2. Administrator Escalation on Limited accounts
 - Invading into Computer System
 1. Recovering BIOS Password
 2. Recovering Biometric Password
 3. Disabling Syskey File Encryption
 - Optimizing Windows Computer System
 1. Steganography
 2. Hiding Files behind an Image
 - Restrict Hackers into box
 1. Restricting Access to Files & Folders
 - ACLs Calculation
 1. Configuring Strong Password
 2. Changing Boot Order
 3. BIOS Password
 4. Physical Security

4. Malwares: Trojan, Viruses & Worms

What are malwares?

Trojans

1. What is a Trojan?
 2. Types of Trojans
- Trojan Attack Methods

1. Direct Connection
2. Reverse Connection

Some Knows Trojans

Detection of Trojan

1. Using Anti-Trojan Software
2. Manual Detection
 - TCP View
 - Process Viewer
 - Process Explorer

Viruses

Working and Functionality of Viruses

Development

1. Batch Programming
2. Programming

Development of Folder lockers

Developing Professional Security tools Compilation and EXE Generation

Detection and Manual Removal

1. Detecting Viruses
2. Process Monitoring
3. Manual Removal of Viruses

5. Playing with Networks

- Introduction to the LAN (Local Area Networks)
 1. What is Network?
 2. What is networking?
 3. Understanding Network Devices
 4. Wireless Hacking (Wi-Fi WEP Key Cracking)
- Flaws and Security
 1. Attacks on Networks
 2. Sniffing
 3. MITM(ARP Poisoning)

Live Demonstration

Secure Network Configuration

1. Configuring Anti-Sniffers
 2. MAC Filtering Restrictions
 3. Configuration of WPA2 Keys
- Introduction to Web Application Security
 1. What is Web Server

2. What is Database Servers
 3. The Web Login Process
 4. What is Web Application Security
 5. Why is Web Application Security Important
- Understanding Attack Vectors
 1. Vulnerabilities & Evolving Threats
 2. Exploit Analysis
 - Web Application Attacks
 1. SQL Injection
 - Basic Injection
 - Advance Injections
 2. Google Dorks – Using Google as an Expert
 3. Directory Traversal Attacks
 - Sever Side Code Retrieval
 - Putting breaks on Web Application attacks
 1. Proper Monitoring
 2. Proper Input Validation
 3. Deny Google to your Website
 4. Finding Backdoors in the Website
 5. Secure Programming

Mozilla Firefox as a Hacking tool

Bypassing Proxy – Intermediate

1. What is Proxy
2. Bypassing a Proxy
3. Opening Block Websites
4. Using Google as Proxy

7.Mobile Hacking – VOIP and Android

Introduction to Mobile Technology o Operating Systems Series 60

Nokia

Android from Google

VOIP – Definition and Usage

1. What is VOIP
 2. Requirements for Setting up VOIP server
 - Asterisk Configuration
 - SIP Connections
- Call Forgery
 1. Call from any number
 - Using Soft Phones

- Using Websites
- Using Series 60 mobile Phones
- SMS Forgery
 1. Sending SMS from any number
 2. Attack on Facebook
- Security to Mobile Attacks
 1. Call Data Records Recognition
 2. VOIP Identification
 3. Nigerian 419 Scam (Advance Fee Attacks)
- Android
 1. Running android on Laptops

8. Software Reverse Engineering

What is Reverse Engineering

Software - Definition

Disassembling the Software

1. Getting the code of EXEs
 2. Manipulating the Code of EXEs
- Dis-assemblers & Debuggers
 1. Olly DBG
 2. Windows Dis-assembler
 - Software Cracking & Serial Key Phishing
 1. Analyzing Assembly Code of Software
 2. Tracing the Error Message
 3. Setting Break Point
 4. Stepping the Assembly Code
 5. Checking the Registers for the Key
 - Software Patching o Disassembling a Software
 1. Error Tracing
 2. Decoding the Instructions
 3. Generating Patch to inject the instruction of Running the Patch
 - Applying Application Security
 1. Introduction to Application Encryption
 2. Using the Setup Encrypters
 3. Applying Strong Serial Key Algorithms

Benefits :

1. **Certification:** Each participant will get a participation certificate.
2. Newest Software at hands.
3. Doubt Clearing Session for all the students at the end of the Workshop.

VENUE:

1. **College of Engineering, Pune**
2. **Aurangabad**

WORKSHOP FEES: ₹1100/- per individual

DATE:

1. **16th and 17th September (Pune).**
2. **9th and 10th September (Aurangabad).**